



Helicopter landing on the former NOAA Ship Surveyor in the Arctic Pack Ice



Arctic region reference map with place names



The North Pole, April, 2000
Photograph by Sigrid Salo,
NOAA/PMEL

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Arctic Research Office

*Integrating NOAA's research in a region critical to
our nation and our planet*

What does the Arctic Research Office do for the nation?

The Arctic Research Office (ARO) serves as a focal point for NOAA's research activities in the Arctic, Bering Sea, North Pacific and North Atlantic regions. The office manages the Arctic Research Initiative and other funds allocated to it, supporting both internal NOAA and extramural research. The Office also undertakes coordination and outreach activities to support scientific research. It represents NOAA on the Interagency Arctic Research Policy Committee, leads U.S. involvement in the international Arctic Monitoring and Assessment Program, and provides a point of contact between NOAA and the Cooperative Institute for Arctic Research and the International Arctic Research Center, both at the University of Alaska Fairbanks.

Recent Accomplishments:

- C Brought together the Arctic countries to undertake the Arctic Climate Impact Assessment by organizing the formative scientific meeting. **Payoffs: Scientifically sound Arctic Climate change scenarios and assessments of climate impacts will be presented to the Arctic Council for policy action in 2001 and 2004 respectively.**
- C Lead the U.S. agencies to develop an integrated Federal plan for studying environmental change in the Arctic. **Payoffs: U.S. agencies will focus their efforts to achieve a comprehensive understanding of climate change in the Arctic and of its consequences for the northern hemisphere.**
- C Lead development of the Arctic Theme Page (www.arctic.noaa.gov/) to bring Arctic science to students and the general public. **Payoffs: Public awareness of the Arctic people, Arctic environment and wildlife, and role of the Arctic in our weather, climate, and quality of life.**

Scientists supported by the Arctic Research Office have:

- Provided key data demonstrating the importance of atmospheric transport for bringing persistent organic pollutants, mercury and other contaminants to the Arctic. **Payoffs: More confident assessment of risks to people and the environment from toxic chemicals.**
- C Demonstrated linkages among climate variability, sea ice dynamics, ecosystem productivity and Native subsistence hunting. **Payoffs: Better information to managers and policy makers.**
- C Developed models and conducted diagnostic studies to determine how Arctic atmospheric processes control climate and weather at mid-latitudes. **Payoffs: Improved weather and short-term climate forecasts by including Arctic processes in forecast models.**

What's Next for ARO?

Science challenges for the next decade:

The Arctic, the Bering Sea, and the high North Atlantic are remote areas, yet they have dramatic impacts on the people and economy of the United States. The U.S. Arctic Research Commission has stated its priorities for Arctic Science as: quantifying climate changes in the Arctic and the role of the Arctic in global climate; approaching Bering Sea ecosystem predictability; and improving human and environmental health in the Arctic. The NOAA Arctic Research Office was established in 1999 to demonstrate NOAA's interest in these areas and to promote more effective science planning within NOAA and between NOAA and its partners. NOAA's response to these scientific priorities may permit the U.S. to avoid unanticipated impacts to its people and economy, and to adapt successfully when environmental changes do occur. NOAA is working with other Federal agencies, the State of Alaska, the academic community, and the other Arctic countries to create science programs with the complexity and scope necessary to answer complex questions about the Arctic region such as those posed below. Programs are evolving rapidly as the scientific community and Arctic residents become more aware of the urgency of responding to changing situations while effective response is still possible. NOAA has a central role in developing these programs and will undertake efforts to improve scientific understanding, provide essential products and services, and build bridges between scientists, policy-makers, and the public. Three urgent Arctic science questions currently facing NOAA and the Nation are:

- C Can we determine what caused the large-scale changes seen in the Arctic over the past few years (net warming and increase in the strength of the circum-Arctic atmospheric circulation) and estimate the effects of these changes on weather and climate in the Northern Hemisphere?
- C Can we learn why there have been dramatic recent declines in critical marine species (sea lions, salmon) in the Bering Sea, and can we create a reliable scientific basis for anticipating such changes and improving living resource management?
- C Can we quantify the real risks to Arctic species, including humans, from the unexpectedly high levels of contaminants present in the Arctic?

Research Partnerships:

The Arctic Research Office works closely with the Cooperative Institute for Arctic Research at the University of Alaska to define and implement its research program. Support is provided to several NOAA organizations and academic institutions to conduct research on critical Arctic science topics.

Budget and Staff:

The Arctic Research Office has a base budget of \$1.6 million and a staff of 2 full time employees. It provides support for university employees at the Cooperative Institute for Arctic Research.



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